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Legislative Brief
Research Services Division

Effects of the Electricity Deregulation and Customer Choice Act (2000 PA 141)

2000 PA 141, *the Customer Choice and Electricity Reliability Act* (MCL 460.10 to 460.10cc) was one of the most significant electricity related acts in Michigan in many years. The act provides all the necessary components to enable competition in Michigan's retail electric industry, while also establishing a renewable energy program and a low-income energy assistance fund. Electric rates were reduced and capped for several years and electricity providers were required to disclose the fuel and environmental impacts of electricity generation. Expansion of transmission capabilities into the state was provided for in the act and utilities were required to join Regional Transmission Organizations (RTOs) or sell their transmission infrastructure. A related act, PA 142 of 2000, provided a mechanism for utilities to recover stranded costs related to restructuring. This brief provides a short history on the enactment of PA 141 and then examines whether its purposes, as provided in MCL 460.10(2), have been realized.

History

In the 1990s, discussions about restructuring the electric industry to allow competition occurred in earnest in Michigan and in many other states across the country. Most states followed federal action that allowed non-utility entrants (and competition) into the wholesale electric market and in transmission segments of the industry under the U.S. Energy Policy Act of 1992 and Federal Energy Regulatory Commission (FERC) Order 888.

Michigan's discussion of electric restructuring may have begun in 1992, when the stakeholder group ABATE (Association of Businesses Advocating Tariff Equity) petitioned the Michigan Public Service Commission (MPSC) to allow "retail wheeling." In 1996, Governor John Engler forwarded to the MPSC recommendations from a *Michigan Jobs Commission* report that suggested moving the electric and gas industries towards competition. Subsequently, the MPSC began public hearings about restructuring in 1996 and issued a final order outlining a restructuring framework in early 1998. Various groups, skeptical of the statutory authority the MPSC used to implement the order, initiated a court challenge. In June, 1999 the Michigan Supreme Court agreed and ruled that the MPSC lacked the statutory authority to restructure Michigan's electric industry.

The Legislature provided the statutory authority in 2000, with PA 141. Restructuring legislation was introduced in 1997, 1998, and 1999. Finally, in 2000 a package of restructuring bills (SB 937; SB 1253; SB 940 and SB 941) introduced in the senate were enacted. Senate bill 937 provided enabling legislation for restructuring (becoming PA 141), while SB 1253 (2000 PA 142) enabled the financing of restructuring—allowing utilities to obtain full recovery of restructuring related qualified costs, to issue securitization bonds, and to collect a nonbypassable securitization charge from customers. Senate bills 940 and 941 amended separate laws to address certain issues arising if a municipal electric corporation or a home rule city were to sell electricity to customers outside its corporate limits.

Before the enactment of PA 141, all Michigan consumers received electricity from a local utility such as an Investor-Owned-Utility (IOU), a cooperative, or a municipality designated by the state to

serve certain areas. Each utility provided all the elements of electric power service (transmission, distribution, and generation) within their assigned service areas and customers did not have a choice to receive electric service from another utility or company. As provided by PA 141, retail electric customers in Michigan can now choose an alternative electric supplier (AES) to provide their electricity.

Measuring PA 141 Using its Purpose Provisions

In atypical fashion, PA 141 was constructed with a legislative intent or purpose clause. The purpose of PA 141 as provided in MCL 460.10(2) is:

(a) To ensure that all retail customers in this state of electric power have a choice of electric suppliers.

(b) To allow and encourage the Michigan public service commission to foster competition in this state in the provision of electric supply and maintain regulation of electric supply for customers who continue to choose supply from incumbent electric utilities.

(c) To encourage the development and construction of merchant plants which will diversify the ownership of electric generation in this state.

(d) To ensure that all persons in this state are afforded safe, reliable electric power at a reasonable rate.

(e) To improve the opportunities for economic development in this state and to promote financially healthy and competitive utilities in this state.

Interestingly, the purposes listed above do not apply after December 31, 2003, as the legislature added a sunset to the purpose of the act (MCL 460.10(3)). Nevertheless, using the purpose provisions to measure the impact of PA 141 can be helpful.

Choice and Competition

Do all customers have a choice? According to clauses (a) and (b), PA 141 should ensure that all customers have a choice of electric provider and the MPSC should foster competition in the provision of electric service. During 2006, Michigan's electric customer choice program was available to all customers of regulated electric utilities, excluding members of electric cooperatives with loads of 50 kilowatts (kW) or less (PA 141 provided different schedules for implementing customer choice for electric cooperatives).

In theory, the answer is yes—where customer choice has been implemented, any electric customer can choose to receive power from someone other than their local utility. However, in reality the answer is no—not all electric customers have a real choice, because they are not being marketed to by Alternative Electric Suppliers (AESs). According to the MPSC's *Status of Electric Competition in Michigan-Report for 2006,* of the 27 AESs licensed to sell electricity in Michigan, none were offering their program to residential customers, and only one was marketing to customers outside of Detroit Edison's or Consumers Energy's territory. There are no AESs marketing to customers in American Electric Power's (AEP's) territory or in areas served by electric cooperatives. According to a joint report prepared by Michigan's electric cooperatives in October 2006, "no member-consumers have elected to switch to an AES, nor have any AESs offered service to member-consumers. The only customers who are offered a real choice of electric supplier are commercial and industrial customers in Detroit Edison's or Consumers Energy's territory.

Is there competition in the state's electric industry? The MPSC gauges competition by tallying the number of licensed AESs in the state (currently 27), the number of customers that have left their local utility and are taking service from an AES, and the amount of load (measured in megawatts of power) they have taken with them. Customers who switch are known as "choice customers" or "retail open access" (ROA) customers. According to the MPSC, typical ROA customers are mid-size commercial customers including retailers, restaurants, healthcare, and other service providers, and school systems. The charts following below show the number of customers (all commercial and industrial) that have left the incumbent utility (either Consumers Energy or Detroit Edison) and purchased electricity from an AES and the megawatts of customer load they have taken with them from 2001 -2006. As the charts show, the number of customers that are buying electricity from an AES has decreased about 60 percent from a high in 2004 of 18,714 customers to only 7,252 customers in 2006. According to the MPSC, about 6 percent of electricity sales in the service territories of Consumers Energy Company and Detroit Edison, combined, are supplied by AESs, down from 12 percent in 2005. The MPSC attributes the decrease in ROA customers primarily to rising AES rates due to higher wholesale electric prices and the unbundling of Consumers Energy and Detroit Edison's rates. PA 141 required the unbundling of rates to separate out distribution charges, from transmission charges, and generation charges and make it easier to compare the cost of obtaining electricity from an AES versus a utility.

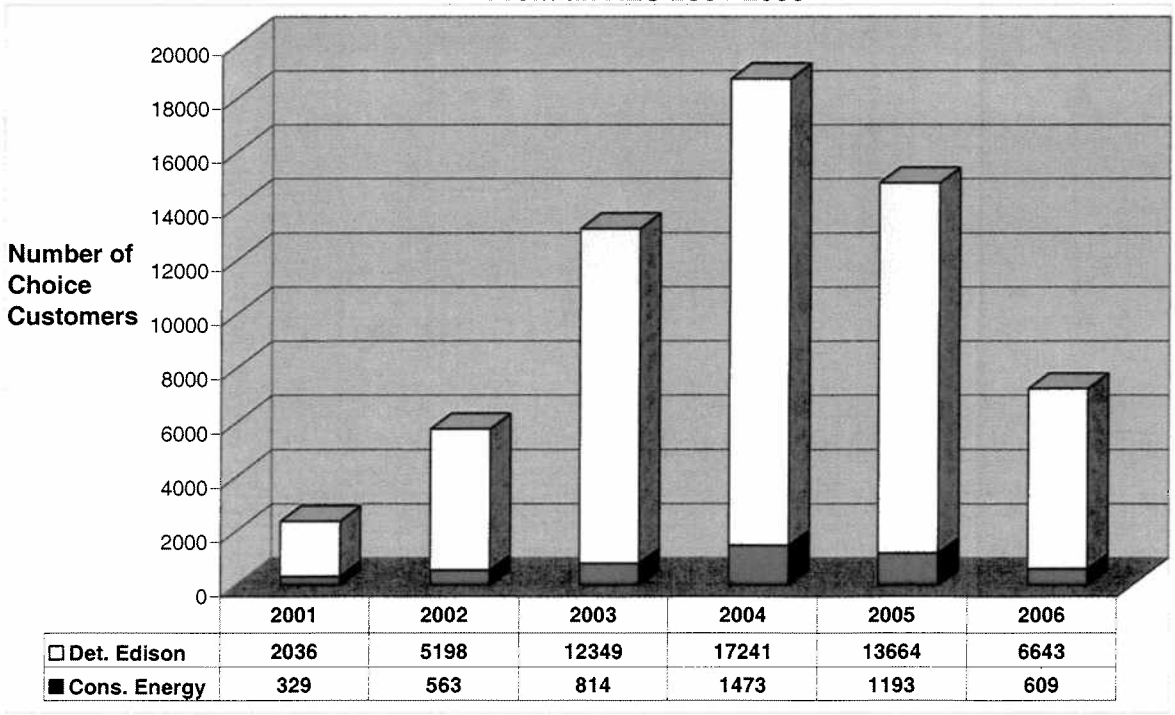
Three Different Customer Classes:

Residential Customers – Generally, single family households who use electricity in their living quarters to heat, light, and air condition, and operate appliances.

Commercial Customers – Generally, schools, churches, hospitals, and non-manufacturing businesses, such as hotels, motels, and restaurants.

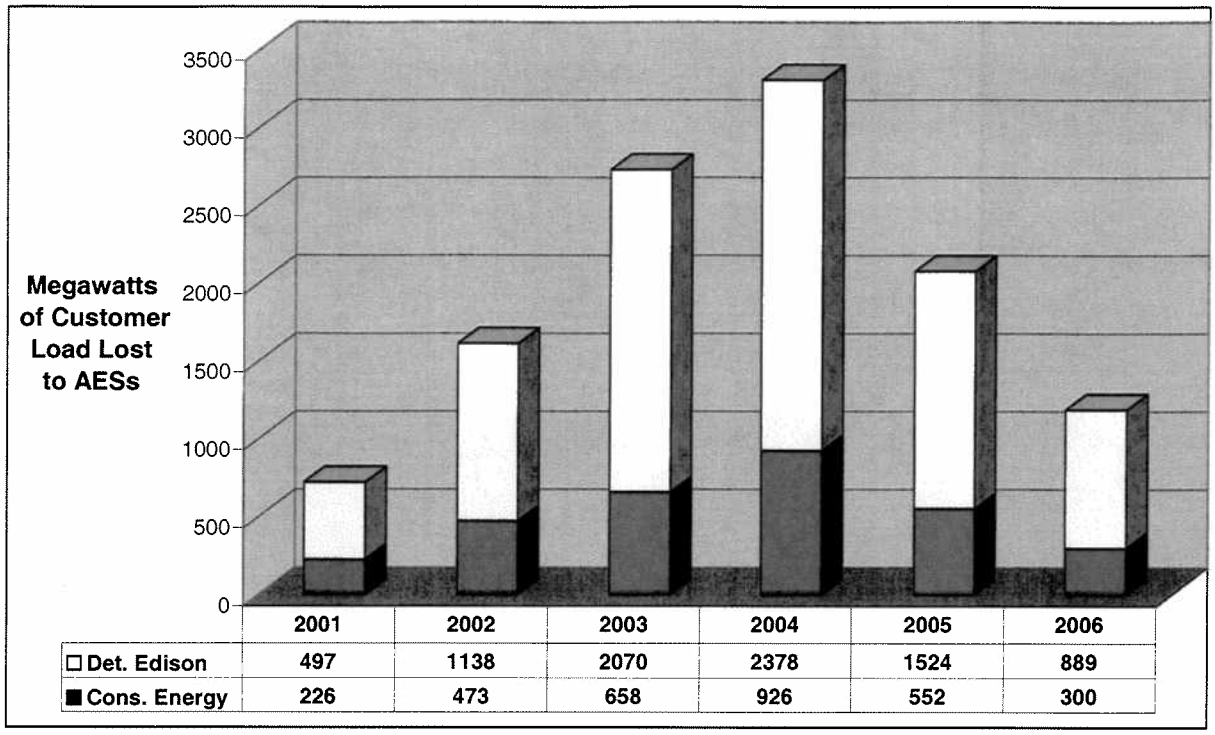
Industrial Customers – Generally, manufacturing and industrial businesses, and construction, mining, agriculture, fishing, and forestry establishments.

Numbers of Customers Leaving Utility and Buying Electricity From an AES 2001-2006



	2001	2002	2003	2004	2005	2006
Det. Edison	2036	5198	12349	17241	13664	6643
Cons. Energy	329	563	814	1473	1193	609

Megawatts of Customer Load Lost by Utilities to AES



	2001	2002	2003	2004	2005	2006
□ Det. Edison	497	1138	2070	2378	1524	889
■ Cons. Energy	226	473	658	926	552	300

SOURCE: Michigan Public Service Commission, "Status of Electric Competition in Michigan," January, 2007.

Merchant Plants

Are merchant plants locating in Michigan? One of the purposes of PA 141 (clause (c)) was to encourage the development and construction of merchant plants across the state to diversify electric generation ownership. Merchant plants are power plants owned by private unregulated companies known as "Independent Power Producers (IPPs). In the late 1990s and early 2000s, in Michigan and across the nation, IPPs sprang up amidst expectations of robust power markets created from restructured state electric industries. The MPSC's 2002 annual report on the status of competition in the electric industry stated that 13,945 megawatts (MW) of new generation—all of it fueled by natural gas—were planned in 2001. By the end of 2003, the total of new generation planned for the state was reduced to 11,795 MW and 90 percent of all projects were reported as being delayed. The last data available (MPSC website; December 2005) shows the same information as 2003. Out of fifteen projects, fourteen are delayed. The New Covert Generating Company LLC., which began operating in 2004 in Covert Township, Van Buren County, is the only project listed that was completed.

It is not clear if any of the fourteen projects listed as "delayed" on the MPSC's website will ever be built. All of the planned power plants would have used natural gas as fuel. According to the U.S. Energy Information Administration (EIA), nominal natural gas prices for the electric power sector in 1999 were $2.68 per Mcf, about what they had been for the previous thirteen years. However, in 2000 they went up to $4.48; in 2003 they were $5.57, and in 2005 they were $8.35. The rise in natural gas prices has changed the economics of natural gas power plants considerably.

Safe, Reliable, Power at Reasonable Rates

Providing safe, reliable electric power at reasonable rates was listed as a purpose (clause d) of PA 141. Generally, reliability refers to having an adequate and secure electric supply. It involves transmission reliability—the reliability of the lines and wires that transport electricity—and generation reliability—having adequate supplies of generation to meet customer demands. Gauging the reliability of Michigan's electric system is a complex technical issue that requires a separate analysis. However, a limited discussion of the reliability of the transmission grid and the adequacy of Michigan generation supplies are provided here in the context of PA 141 and electric industry restructuring across the nation.

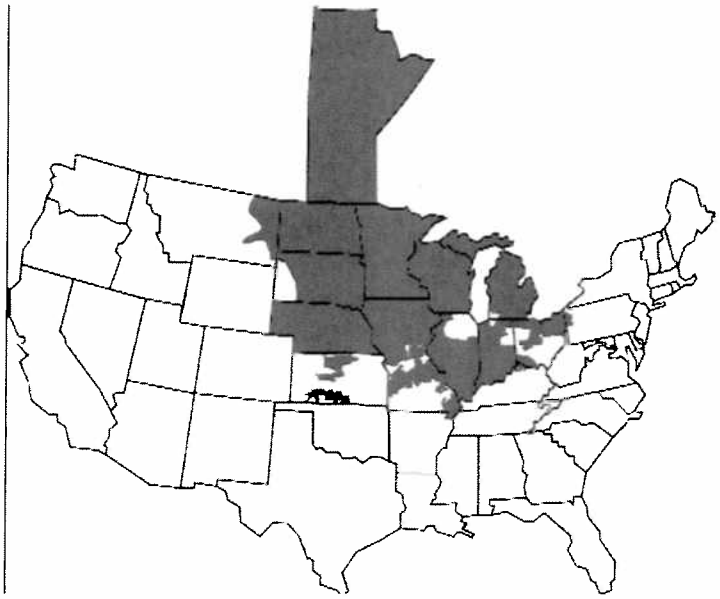
PA 141 included some reliability specific provisions

PA 141 included provisions that required actions on the part of the MPSC and the state's utilities that would lead to an increased reliability of Michigan's electric system. The following provisions of PA 141 have been satisfied:

- As required under PA 141 (MCL 460.10p), in 2004, the MPSC has adopted service quality and reliability standards for utility-owned transmission and distribution services in regards to outages, repairs, and maintenance issues.
- As required under PA 141 (MCL 460.10v), the transmission capacity coming into Michigan was increased by 2,000 MW. This was accomplished in 2002, with the addition of a transformer at the Dumont Station in South Bend, Indiana by AEP.

Transmission Reliability: RTOs

In 2000, the Federal Energy Regulatory Commission (FERC) outlined a plan to have the entire North American electric transmission grid under the control of a handful of independent regional organizations. FERC encouraged the formation of these organizations, which came to be known as "regional transmission organizations," or RTOs. FERC reasoned that as the country moved towards deregulation it was necessary to have independent and unbiased RTOs control and ensure reliability of the grid, rather than electric utilities, who might favor their own grid transactions. FERC never required utilities to join RTOs, but Michigan and many other states made it mandatory in their electric restructuring acts.



MISO Footprint
Source: Midwest ISO Corporate Information

In order to assure that AESs have access to transmission lines and wholesale power markets, PA 141 (specifically MCL 460.10w) required all investor owned utilities (i.e. Detroit Edison, Consumers Energy, and AEP) to join a federally approved multi-state regional transmission organization (RTO) or divest their transmission facilities. Detroit Edison and Consumers Energy did both—they sold their transmission lines *and* they joined the RTO serving most of the Midwest, the *Midwest Independent Transmission Systems Operator (Midwest ISO or*

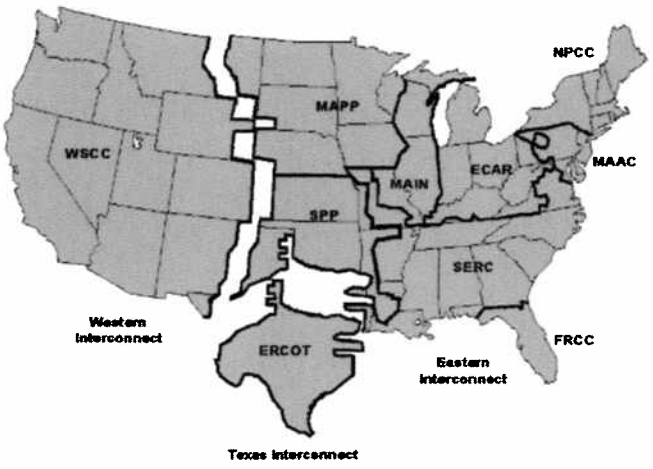
MISO). AEP held onto its transmission lines and joined *PJM Interconnection*, an RTO based out of the northeast. The state is now served primarily by independent transmission companies. The International Transmission Company (ITC) serves most of the lower peninsula and the American Transmission Company (ATC) serves the upper peninsula. The grid in Michigan is now controlled by RTOs. MISO controls most of the Michigan grid, except for a small portion of the southwest corner (AEP's service territory), which is under the control of PJM Interconnection.

Transmission Reliability: MISO

MISO plays an important role in reliability and pricing. MISO controls about 130,000 to 160,000 MW of electric generation and about 100,000 miles of transmission lines located in 15 states and the province of Manitoba (see map on previous page). In the areas in which it operates, MISO is responsible for maintaining electric system reliability, setting transmission prices, and operating wholesale electric markets. According the MPSC', in 2006 MISO was able to maintain reliable electric service in Michigan, even with the unexpected outages of some major power plants.

Transmission Reliability: National Restructuring Impacts

Michigan's electric grid is not an isolated entity. Regional and national electric restructuring activities, though providing more economic opportunity and choice, have put more stress on the grids in the U.S. All U.S. states and Canadian provinces east of the Rockies are connected to the *Eastern Interconnect*, the largest electric grid in the world. (see map below). Before electricity deregulation began, for the most part the only entities using the Eastern Interconnect were utilities. In general they worked with each other to ensure the grid was balanced and reliable, they transported power between themselves occasionally and usually only for short distances, and they voluntarily followed national reliability standards set by the North American Electric Reliability Council (NERC). Now, however, the grid is used by hundreds of different entities, such as IPPs, marketers, and utilities. The numbers of grid transactions have skyrocketed, and power is often transported over long distances. Additionally, until just recently many entities did not voluntarily adhere to NERC's reliability standards (the U.S. Energy Policy Act of 2005 has since made compliance with NERC reliability standards mandatory and enforceable). In their 2004 reliability assessment, NERC stated "over the past decade, the increased demands placed on the transmission system in response to industry restructuring and market-related needs are causing the grid to be operated closer to its reliability limits more of the time." The effect is that the grid is more complicated to control and there is less margin for error. Mistakes, line outages, or human errors could have major implications. Additionally, there is a greater emphasis on the skill of "grid controllers" and compliance with NERC reliability standards. It is widely agreed that the Eastern Interconnect would be made more reliable by the addition of new transmission lines and facilities, particularly at congested points on the grid. However, new transmission construction is hampered by uncertainty involving cost recovery. Historically, utilities have built all of the transmission grid facilities and were allowed to pass through the costs to rate payers. However, new transmission projects would now likely be undertaken by commercial transmission companies who are not assured that they can recover their costs.



Generation Adequacy: Uncertainty in Who Will Build New Generation

The MPSC predicts that in the next several years Michigan will probably need at least one new baseload electric generating power plant in order to ensure that Michigan resident's have an adequate

and reliable supply of electricity. Baseload power plants are large plants—typically fueled by coal or nuclear energy and with a generating capacity around 1,000 MW—that have high capital costs but low operating costs and are the plants that are depended upon day in and day out to provide electricity. If a new plant is not built within the state, the MPSC fears that Michigan utilities will be forced to buy power on the "volatile and costly" MISO energy market at wholesale prices driven up by the cost of natural gas. MISO determines how much each grid transaction costs within its area of operation. These costs are then passed on to Michigan electric consumers, either to utility customers by the MPSC when determining rates, or through the market based rates of AESs.

In *the 21st Century Energy Plan*, the MPSC asserts that uncertainty of cost recovery is hampering the construction of new baseload generation in Michigan. They provide a legislative recommendation that would facilitate the construction of new utility-owned baseload electric-generating power plant(s) in Michigan by reducing the financial risks associated with building a new plant. They recommend legislation that provides some assurance of cost recovery to utilities before they begin construction of a new power plant.

However, some IPPs, AESs, and others believe that MISO has the responsibility to bring about the construction of baseload power plants or any other new generation and/or transmission resources in Michigan and the region by providing appropriate market incentives. For instance, under the pricing scheme that the MISO currently uses—called locational marginal pricing, or LMP—in areas where new generation is needed (i.e. where the grid is congested), the last power (most expensive) on the system sets the market price that all other generators receive for their power. Some IPPs think that LMP will cause new power plants to be built where they are needed, i.e. where the grid is congested.

Generation Adequacy: Reserve Margin: Utilities and AESs

Reliability in the generation component of the electric system is often characterized by the amount of reserve margin held by an electric provider. Electric reserve refers to the amount of electricity—represented by an owned source of generation held on standby or a contract to purchase power from another entity—ready to supply electricity over and above what the electric provider thinks it will need. Reliability depends on the maintenance of two types of reserves: operating reserves and planning reserves. Operating reserves are the reserves carried on an hour-by-hour and day-by-day basis that are usually small and can cover immediate disruptions like a surge in load or a load-generation imbalance. Operating reserves are a subset of planning reserves. Planning reserves are reserves planned for in a coming year and are used to address baseload power plant or transmission line outages, unexpected weather, or unanticipated economic growth. Sufficient operating and planning reserves are necessary in order to prevent economic disruptions from power outages.

Although there has been no explicit requirement for a certain planning reserve, generally the MPSC has expected utilities to maintain—and they have done so—at least about 15 percent planning reserve margin. This percentage of reserve margin has generally been considered sufficient to meet the industry standard of "one day in ten years"—meaning that the system is reliable enough, that the likelihood of being unable to supply electricity due to a loss of generation, would occur no more than one day in ten years.

Maintaining electric supply that may go unneeded is costly. As a result, AESs generally do not maintain any planning reserves. However, they do maintain about 4 percent operating reserves. Any entities that use the MISO-controlled electric grid are required to maintain at least about 4 percent operating reserves. In *the 21st Century Energy Plan*, the MPSC states that "the obligation to maintain planning reserves may cause incumbent utilities to incur higher fixed costs than their AES competitors" and the MPSC makes a legislative recommendation that all load serving entities, including AESs, should maintain a suitable planning reserve margin (around 15 percent) or be able to demonstrate that the electricity they purchase is backed up by adequate planning reserve margins.

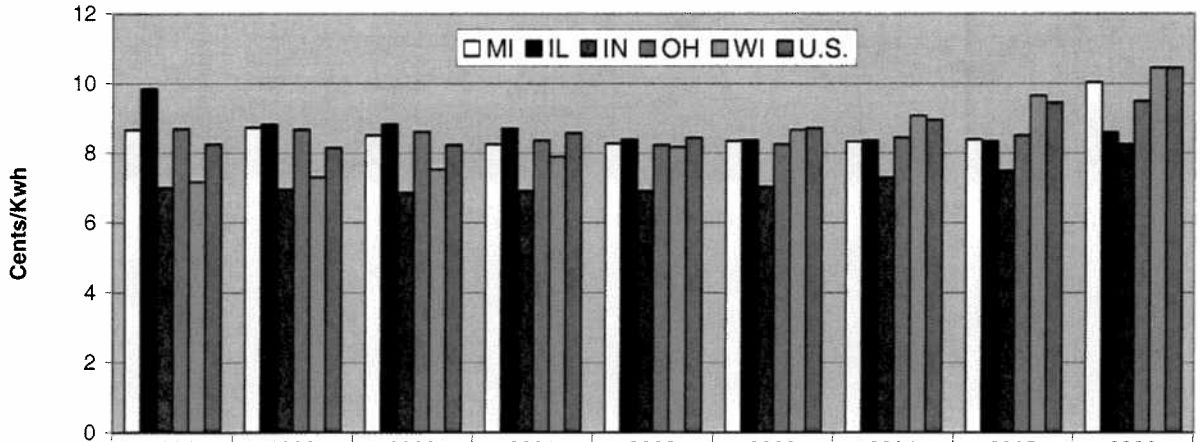
Reasonable Rates: What has happened to electric rates under PA 141?

The average retail rates for Michigan, Illinois, Indiana, Ohio, Wisconsin, and the U.S. average for each customer class are shown in the charts below (source: the U.S. Energy Information Administration *Current and Historical Monthly Retail Sales, Revenues, and Average Retail Price by State and by Sector (Form EIA-826)* and *1990 - 2005 Average Price by State by Provider (EIA-861)* available at http://www.eia.doe.gov/cneaf/electricity/epa/epat7p4.html and http://www.eia.doe.gov/cneaf/electricity/epa/average_price_state.xls).

When analyzing the charts, it is important to note the following:

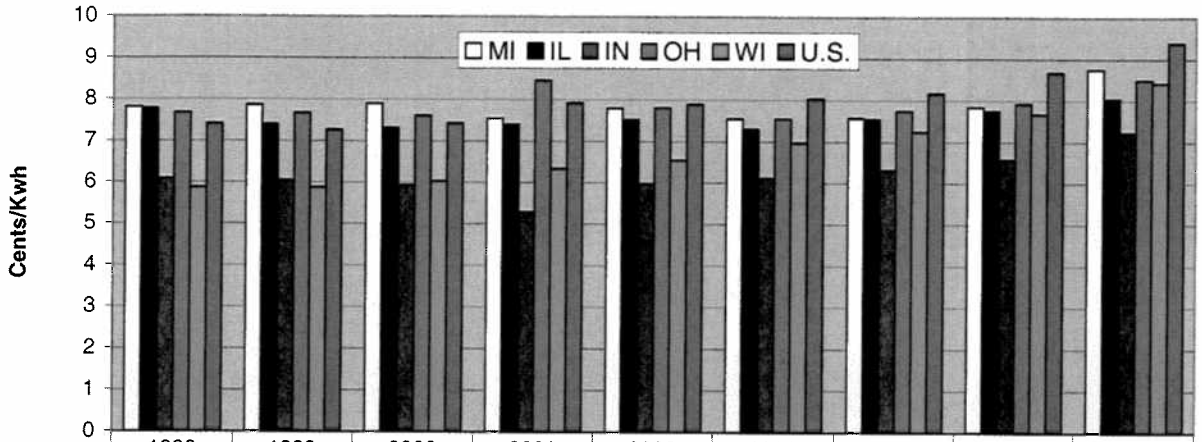
- Indiana and Wisconsin have regulated electric industries.
- Michigan, Illinois, and Ohio have restructured electric industries and have instituted rate caps at one time or another.
- Retail rates for residential customers in Michigan were immediately lowered (by 5 percent) under PA 141 and then frozen or capped until January 1, 2006. Large commercial and industrial customers were under a rate cap until January 1, 2004. The MPSC lowered Detroit Edison's rates beginning in 2007.
- Illinois' rate cap was extended until January 1, 2007.
- Ohio customers were under a rate cap until January 1, 2006. Currently, they are under a stabilization period: Generation rates for all customer classes in Ohio will increase gradually each year until January 1, 2009.

Average Retail Electric Prices: Residential



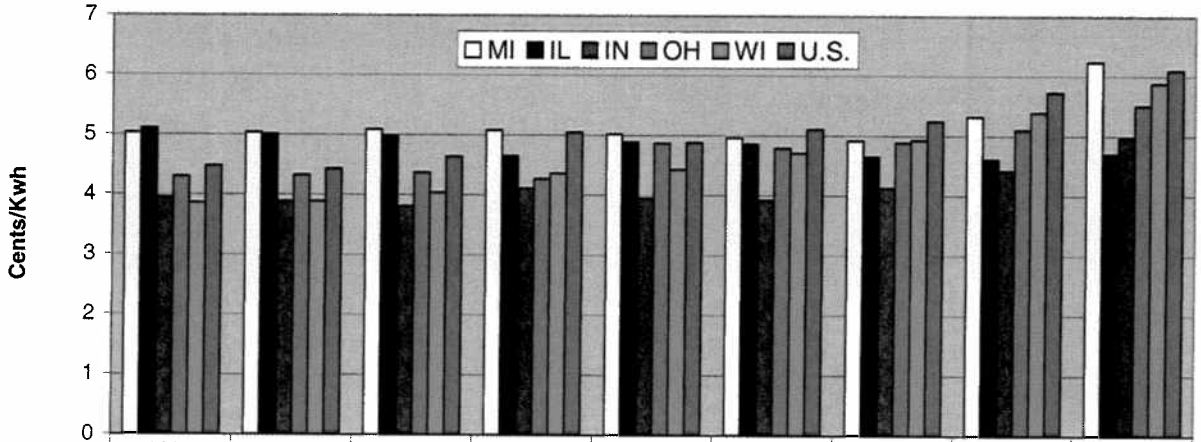
	1998	1999	2000	2001	2002	2003	2004	2005	2006
MI	8.67	8.73	8.52	8.26	8.28	8.35	8.33	8.4	10.04
IL	9.85	8.83	8.83	8.71	8.39	8.38	8.37	8.34	8.6
IN	7.01	6.96	6.87	6.92	6.91	7.04	7.3	7.5	8.26
OH	8.7	8.68	8.61	8.37	8.24	8.26	8.45	8.51	9.5
WI	7.17	7.31	7.53	7.9	8.18	8.67	9.07	9.66	10.46
U.S.	8.26	8.16	8.24	8.58	8.44	8.72	8.95	9.45	10.46

Average Retail Electric Prices: Commercial



	1998	1999	2000	2001	2002	2003	2004	2005	2006
MI	7.81	7.86	7.9	7.54	7.79	7.55	7.57	7.84	8.75
IL	7.77	7.39	7.31	7.4	7.52	7.3	7.54	7.75	8.04
IN	6.08	6.05	5.93	5.29	5.98	6.12	6.31	6.57	7.23
OH	7.67	7.67	7.61	8.46	7.81	7.55	7.75	7.93	8.5
WI	5.87	5.88	6.03	6.34	6.54	6.97	7.24	7.67	8.42
U.S.	7.41	7.26	7.43	7.92	7.89	8.03	8.17	8.67	9.39

Average Retail Electric Prices: Industrial



	1998	1999	2000	2001	2002	2003	2004	2005	2006
MI	5.03	5.04	5.09	5.08	5.02	4.96	4.92	5.32	6.24
IL	5.11	5.01	4.99	4.65	4.89	4.86	4.65	4.61	4.7
IN	3.95	3.89	3.81	4.11	3.95	3.92	4.13	4.42	4.98
OH	4.3	4.33	4.37	4.27	4.87	4.79	4.89	5.1	5.51
WI	3.86	3.89	4.04	4.36	4.43	4.71	4.93	5.39	5.88
U.S.	4.48	4.43	4.64	5.05	4.88	5.11	5.25	5.73	6.1

Financially Healthy and Competitive Utilities

The last purpose given for PA 141 (clause e) was to improve the opportunities for economic development in this state and to promote financially healthy and competitive utilities in this state.

Have economic development opportunities improved? Have financially healthy and competitive utilities been promoted? Given the economic difficulties that Michigan is currently struggling through, it can be argued that economic opportunities have not improved. However, discussion on what impact, if any, PA 141 has had in regards to economic opportunities in Michigan is best left to economic experts. In regards to financially health and competitive utilities, it is difficult to find a meaningful parameter that would convey this information. The credit ratings of Detroit Edison and Consumers Energy, while a measurable quantity are complicated by connection between each of these utilities and their parent holding companies, i.e. DTE Energy and CMS Energy. Therefore, it is difficult to provide data or to comment on whether this purpose has been realized.

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PA 141 was a comprehensive act that reshaped Michigan's electric system. This brief provides an overview of the act and a brief review of progress made in meeting the stated purpose of the act. However, the impact of PA 141 on Michigan's electric system can be examined in several other areas as well. For instance, MCL 460.10r implemented a renewable energy program for the state, MCL 460.10d created a state wide low income energy efficiency fund, and MCL 460.10e tasked the MPSC to establish interconnection standards. Additionally, securitization charges will be collected on customer bills until 2015. A comprehensive review of the effectiveness of PA 141 would require a review of these and likely other issues.

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